## PLAINTIFFS' EXHIBIT F

## **CLAIM**

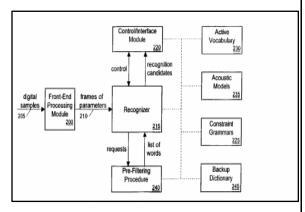
## EXEMPLARY DISCLOSURES

1. A computerimplemented
method for
dynamically
presenting a
prewritten text
in a graphical
user interface
comprising

Disclosed by US 6,212,498 B1

"A computer-implemented method for enrolling a user in a continuous-

speech recognition comprising: system, analyzing acoustic content of user a utterance including multiple words; determining, based on the analysis, whether multiple words of the user utterance substantially match a multiple-word portion of an enrollment text; and if the multiple



words of the user utterance substantially match a multiple-word portion of the enrollment text, using the acoustic content of the user utterance to update acoustic models corresponding to the multiple-word portion of the enrollment text." (Refer: Claim 1)

"FIG. 4A illustrates another example of a constraint grammar for a "select" command used to select previously recognized text. As shown, a constraint grammar may be illustrated as a state diagram 400. The "select" command includes the word "select" followed by one more previouslyrecognized words, with the words being in the order recognized. The first state 405 of the constraint grammar indicates that the first word of the select command must be "select". After the word "select", the constraint grammar permits a transition along a path 410 to a second state 415 that requires the next word in the command to be a previously-recognized word. A path 420, which returns to the second state 415, indicates that the command may include additional previously-recognized words. A path 425, which exits the second state 415 and completes the command, indicates that the command may include only previously-recognized words. FIG. 4B illustrates the state diagram 450 of the constraint grammar for the select command when a previously-recognized utterance is "four score and seven". This state diagram could be expanded to include words from additional utterances." (Refer: Col. 6, Lines 30 - 50)

"The enrollment program may provide a list of enrollment texts, each of which has a corresponding enrollment grammar, for the user's selection. Alternatively, the user may input an enrollment text from another source. In this case, the enrollment program may generate the enrollment grammar from the input enrollment text, or may employ a previously generated enrollment grammar.

FIG. 13 shows a user interface 1300 of the enrollment program. The user interface 1300 displays an enrollment text 1310 for the user to read and displays the user's current position, also referred to as the "enrollment position", using, for example, a moving arrow 1320 in the enrollment text. For example, the display of FIG. 13 shows an enrollment position at the word "for", indicating that the enrollment program has recognized the user's reading of the enrollment text up to the word "for" and that the enrollment process will continue when the user continues reading, beginning with the word "for". By contrast, the display of FIG. 14 indicates an enrollment position at the word "program". (Refer: Col. 16, Lines 6 - 24)

1a. receiving a text artifact, said text artifact containing a plurality of artifact words;

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"Referring again to FIG. 2, a recognizer 215 receives and processes the frames of an utterance to identify text corresponding to the utterance. The recognizer entertains several hypotheses about the text and associates a score with each hypothesis. The score reflects the probability that a hypothesis corresponds to the user's speech. For ease of processing, scores are maintained as negative logarithmic values. Accordingly, a lower score indicates a better match (a high probability) while a higher score indicates a less likely match (a lower probability), with the likelihood of the match decreasing as the score increases. After processing the utterance, the recognizer provides the best-scoring hypotheses to the control/interface module 220 as a list of recognition candidates, where each recognition candidate corresponds to a hypothesis and has an associated score. Some recognition candidates may correspond to text while other recognition candidates correspond to commands. Commands may include words, phrases or sentences recognized by a constraint grammar 225, explained in greater detail below." (Refer: Col. 4, Lines 28 - 57)

"FIG. 4A illustrates another example of a constraint grammar for a "select" command used to select previously recognized text. As shown, a constraint grammar may be illustrated as a state diagram 400. The "select" command includes the word "select" followed by one more previously-recognized words, with the words being in the order recognized. The first state 405 of the constraint grammar indicates that the first word of the select command must be "select". After the word "select", the constraint grammar permits a transition along a path 410 to a second state 415 that requires the next word in the command to be a previously-recognized word. A path 420, which returns to the second state 415, indicates that the command may include additional previously-recognized words. A path 425, which exits the second state 415 and completes the command, indicates that the command may include only previously-recognized words. FIG. 4B illustrates the state diagram 450 of the constraint grammar for the select command when a previously-recognized utterance

	is "four score and seven". This state diagram could be expanded to include words from additional utterances." (Refer: Col. 6, Lines 30 - 50)
1b. storing, via a processor, said text artifact in a memory device of a computer;	Disclosed by US 6,212,498 B1 "FIG. 1 is a block diagram of a speech recognition system 100. The system includes input/output (I/O) devices (e.g., microphone 105, mouse 110, keyboard 115, and display 120) and a general purpose computer 125 having a processor 130, an I/O unit 135 and a sound card 140. A memory 145 stores data and programs such as an operating system 150, an application program 155 (e.g., a word processing program), and speech recognition software 160." (Refer: Col. 3, Lines 43 - 50) "User-specific backup vocabulary words include words which a user has created while using the speech recognition software. These words are stored in vocabulary files for the user and for the dictation, and are available as part of the backup dictionary for the dictation topic regardless of user, and to the user regardless of which dictation topic is being used. For example, if a user is using a medical topic and adds the word "ganglion" to the dictation vocabulary, any other user of the medial topic will have immediate access to the word "ganglion". In addition, the word will be written into the user-specific backup vocabulary. Then, if the user says "ganglion" while using a legal topic, the word "ganglion" will be available during correction from the backup dictionary." (Refer: Col. 6, Lines 6 - 19)
1c. retrieving, via said processor, said text artifact;	Disclosed by US 6,212,498 B1  "Referring again to FIG. 2, a recognizer 215 receives and processes the frames of an utterance to identify text corresponding to the utterance. The recognizer entertains several hypotheses about the text and associates a score with each hypothesis. The score reflects the probability that a hypothesis corresponds to the user's speech. For ease of processing, scores are maintained as negative logarithmic values. Accordingly, a lower score indicates a better match (a high probability) while a higher score indicates a less likely match (a lower probability), with the likelihood of the match decreasing as the score increases. After processing the utterance, the recognizer provides the best-scoring hypotheses to the control/interface module 220 as a list of recognition candidates, where each recognition candidate corresponds to a hypothesis and has an associated score. Some recognition candidates may correspond to text while other recognition candidates correspond to commands. Commands may include words, phrases or sentences recognized by a constraint grammar 225, explained in greater detail below." (Refer: Col. 4, Lines 28 - 57) "Referring to FIG. 12, the recognizer 215 operates according to a procedure 1200. First, prior to processing, the recognizer 215 initializes the lexical tree 500 as described above (step 1205). The recognizer 215 then retrieves a frame of parameters (step 1210) and determines whether there are hypotheses to be considered for the frame (step 1215). The first

	frame always corresponds to silence so that there are no hypotheses to be considered for the first frame." (Refer: Col. 14, Lines 11 - 18)
1d. displaying said text artifact on the display screen of said computer;	Disclosed by US 6,212,498 B1 "FIG. 13 shows a user interface 1300 of the enrollment program. The user interface 1300 displays an enrollment text 1310 for the user to read and displays the user's current position, also referred to as the "enrollment position", using, for example, a moving arrow 1320 in the enrollment text. For example, the display of FIG. 13 shows an enrollment position at the word "for", indicating that the enrollment program has recognized the user's reading of the enrollment text up to the word "for" and that the enrollment process will continue when the user continues reading, beginning with the word "for". By contrast, the display of FIG. 14 indicates an enrollment position at the word "program". (Refer: Col. 16, Lines 13 - 24)
1e. receiving a vocal input;	Disclosed by US 6,212,498 B1  "A speech recognition system for enrolling a user, comprising: a display for displaying an enrollment text to a user; an input device for receiving speech signals; a processor for: determining a user utterance including multiple words from a received speech signal; analyzing acoustic content of the user utterance; determining, based on the acoustic analysis, whether the multiple words of the user utterance substantially match a multiple-word portion of an enrollment text; and using the user utterance to update acoustic models corresponding to the multiple-word portion of the enrollment text if multiple words of the user utterance substantially match a multiple-words portion of the enrollment text." (Refer: Claim 20)
1f. generating, via said processor, a text file representing the words spoken in said vocal input, said text file containing a plurality of hypothesis words;	Disclosed by US 6,212,498 B1  "A speech recognition system for enrolling a user, comprising: a display for displaying an enrollment text to a user; an input device for receiving speech signals; a processor for: determining a user utterance including multiple words from a received speech signal; analyzing acoustic content of the user utterance; determining, based on the acoustic analysis, whether the multiple words of the user utterance substantially match a multiple-word portion of an enrollment text; and using the user utterance to update acoustic models corresponding to the multiple-word portion of the enrollment text if multiple words of the user utterance substantially match a multiple-words portion of the enrollment text." (Refer: Claim 20)  "After the pre-filtering procedure responds with the requested list of words, the recognizer initiates a hypothesis for each word from the list and compares acoustic models for the word to the frames of parameters representing the utterance. The recognizer uses the results of these comparisons to generate scores for the hypotheses. Hypotheses having excessive scores are eliminated from further consideration. As noted above, hypotheses that comply with no active constraint grammar also are eliminated." (Refer: Col. 13, Lines 50 - 58)

lg. comparing,
via said
processor, a
predetermined
number of
said
hypothesis
words to a
predetermined
number of
said artifact
words;

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"A speech recognition system for enrolling a user, comprising: a display for displaying an enrollment text to a user; an input device for receiving speech signals; a processor for: determining a user utterance including multiple words from a received speech signal; analyzing acoustic content of the user utterance; determining, based on the acoustic analysis, whether the multiple words of the user utterance substantially match a multiple-word portion of an enrollment text; and using the user utterance to update acoustic models corresponding to the multiple-word portion of the enrollment text if multiple words of the user utterance substantially match a multiple-words portion of the enrollment text." (Refer: Claim 20)

"Referring again to FIG. 2, a recognizer 215 receives and processes the frames of an utterance to identify text corresponding to the utterance. The recognizer entertains several hypotheses about the text and associates a score with each hypothesis. The score reflects the probability that a hypothesis corresponds to the user's speech. For ease of processing, scores are maintained as negative logarithmic values. Accordingly, a lower score indicates a better match (a high probability) while a higher score indicates a less likely match (a lower probability), with the likelihood of the match decreasing as the score increases. After processing the utterance, the recognizer provides the best-scoring hypotheses to the control/interface module 220 as a list of recognition candidates, where each recognition candidate corresponds to a hypothesis and has an associated score. Some recognition candidates may correspond to text while other recognition candidates correspond to commands. Commands may include words, phrases or sentences recognized by a constraint grammar 225, explained in greater detail below." (Refer: Col. 4, Lines 28 - 57)

"After the pre-filtering procedure responds with the requested list of words, the recognizer initiates a hypothesis for each word from the list and compares acoustic models for the word to the frames of parameters representing the utterance. The recognizer uses the results of these comparisons to generate scores for the hypotheses. Hypotheses having excessive scores are eliminated from further consideration. As noted above, hypotheses that comply with no active constraint grammar also are eliminated." (Refer: Col. 4, Lines 50 - 58)

"In generating the score for a hypothesis, the recognizer uses acoustic scores for words of the hypothesis, a language model score that indicates the likelihood that words of the hypothesis are used together, and scores provided for each word of the hypothesis by the pre-filtering procedure. The scores provided by the pre-filtering procedure include components corresponding to a crude acoustic comparison and a language model score indicative of the likelihood that a word is used, independently of context. The recognizer may eliminate any hypothesis that is associated with a constraint grammar (e.g., a command hypothesis), but does not comply with the constraint grammar." (Refer: Col. 13 - 14, Lines 66 - 10)

1h. determining a match location in said text artifact where specific number of said predetermined number of hypothesis words match a specific number of said predetermined number artifact words:

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"An enrollment position may be determined within the enrollment text, and a user utterance may be required to match a portion of the enrollment text that begins at the enrollment position. The enrollment text and the enrollment position may be displayed. If the user utterance matches a portion of the enrollment text, the enrollment position is advanced past the matching portion in the enrollment text." (Refer: Col. 2, Lines 21 - 27)

"If the recognizer determines that the word or words corresponding to the hypothesis were likely to have been spoken by the user, then the recognizer determines whether the last word of the hypothesis is ending (step 1245). The recognizer determines that a word is ending when the frame corresponds to the last component of the model for the word. If the recognizer determines that a word is ending (step 1245), the recognizer sets a flag that indicates that the next frame may correspond to the beginning of a word (step 1250)." (Refer: Col. 14, Lines 33 - 42)

"FIG. 13 shows a user interface 1300 of the enrollment program. The user interface 1300 displays an enrollment text 1310 for the user to read and displays the user's current position, also referred to as the "enrollment position", using, for example, a moving arrow 1320 in the enrollment text. For example, the display of FIG. 13 shows an enrollment position at the word "for", indicating that the enrollment program has recognized the user's reading of the enrollment text up to the word "for" and that the enrollment process will continue when the user continues reading, beginning with the word "for". By contrast, the display of FIG. 14 indicates an enrollment position at the word "program".

Using the user interface 1300 of FIG. 13, the user starts the enrollment program by selecting the Record button 1330 through a voiced command or an input device such as a mouse. The user then reads the displayed text 1310 beginning with the text at the enrollment position, as indicated by the arrow 1320. As the user reads, the recognizer 215 matches the user's speech to the enrollment text using the enrollment grammar and advances the enrollment position (and arrow 1320) to the beginning of the next word to be spoken. Acoustic models corresponding to the enrollment text are updated based on the matching user utterances. In general, the recognizer 215 does not use the pre-filtering procedure 240 during the enrollment process.

As shown in FIG. 15, the enrollment program begins by setting the enrollment position at the beginning of the enrollment text (step 1510) and displaying the arrow at the enrollment position (step 1520). The enrollment program next receives the user's digitized speech for an utterance (step 1530). The recognizer 215, using the enrollment grammar corresponding to the enrollment text, determines whether the utterance matches a portion of the enrollment text beginning at the enrollment position (step 1540). Because the portion of the text to which an utterance corresponds is unspecified, the recognizer 215 uses the enrollment

	grammar to identify a portion of the enrollment text beginning at the enrollment position that best matches the utterance." (Refer: Col. 16, Lines 13 - 51)
1i. altering, via said processor, the display on said display screen to display said match location on said display screen of said computer;	Disclosed by US 6,212,498 B1  "A computer-implemented method for enrolling a user into a continuous-speech recognition system, comprising: displaying an enrollment text; displaying an enrollment position within the enrollment text; receiving a user utterance including multiple words; determining whether a match exists between the multiple words of the user utterance and a multiple-word portion of the enrollment text beginning at the enrollment position; updating the enrollment position if a match exists; and displaying the updated enrollment position." (Refer: Claim 15)  "The method of claim 15, wherein displaying the enrollment position and the updated enrollment position further comprises displaying a cursor in the enrollment text at the enrollment position." (Refer: Claim 18)  "A speech recognition system for enrolling a user, comprising: a display for displaying an enrollment text to a user; an input device for receiving speech signals; a processor for: determining a user utterance including multiple words from a received speech signal; analyzing acoustic content of the user utterance; determining, based on the acoustic analysis, whether the multiple words of the user utterance substantially match a multiple-word portion of an enrollment text; and using the user utterance to update acoustic models corresponding to the multiple-word portion of the enrollment text if multiple words of the user utterance substantially match a multiple-words portion of the enrollment text." (Refer: Claim 20)  "Other embodiments are within the scope of the following claims. For example, an enrollment program may include multiple enrollment texts, each with corresponding enrollment grammars, allowing a user to select one or more texts for enrollment grammars, allowing a user to select one or more texts for enrollment grammars, allowing a user to select one or more texts for enrollment program will create a corresponding enrollment grammar. The specific methods by which the enrollment and rejection grammars score a user utterance
1j. determining, via said processor, the font size of the text of said text artifact as displayed on	Disclosed by US 7,266,500 B2  To implement the method according to the invention, the whole speech text is stored on a floppy disk prior to the delivery of the speech and is stored in the memory 2 via the floppy disk drive 1 and the processing unit 7. Additional parameters, such as, the language used, can be fed as information to the speech recognition system 4 via the keyboard 9. Furthermore, the additional control commands can be defined by this keyboard 9, for example, with which words which special actions are to be carried out. Alternatively, this information may also be stored together

said display screen;

with the text in a certain format on the floppy disk." (Ref: Col. 3 - 4, Lines 55 - 65)

"A display device controller communicatively connected with a recognizer of at least one of words and word combinations and a relation of the captured text to a previously recognized stored word or word combination, said recognizer being in communicative connection with an acoustic recording device configured for capturing speech text during delivery of the speech, and with a memory containing a prestored text corresponding to said speech text, said controller being configured to scroll so as to maintain on display one or more words preceding, and one or more words following, the word or word combination, respectively, most-recently recognized by the recognizer from said captured speech text, said words following being part of said pre-stored text, said apparatus further comprising a display device on which said controller maintains said display of one or more words preceding or following wherein at least one section of the displayed captured text is advanced by one word or word combination each time a single word is recognized, said apparatus having an interface for sending control instructions to another device other than said display device when a particular keyword combination is recognized by said recognizer; and a panic button for displaying a last part of a correctly recognized portion of the speech in a smaller font size in order to display a larger section of the speech." (Refer: Claim 18)

1k. determining,
via said
processor, the
orientation of
the electronic
screen
displaying the
text of the text
artifact;

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"The system of claim 6, wherein the means for carrying out certain actions comprise a display device for displaying at least a just recognized section of the speech text containing a word or word combination." (Refer: Claim 7)

"The system of claim 5, further comprising an actuation device for enabling a user delivering said speech to operate the actuation device for adjusting the size of a currently displayed text section during said delivery." (Refer: Claim 10)

"With another setting, each stored word is such a control word, i.e. the section is advanced by one word each time a single word is recognized, for example. When a complete speech text is stored, the text is scrolling continuously while the speed is defined by the speaker himself via his speech. This means that there is no need for the speaker to adjust to the display with his speech rate, but the display is adjusted to the speed of the current speaker." (Ref: Col. 4, Lines 27 - 34)

11. altering, via said processor, said predetermined

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"A speech recognition system for enrolling a user, comprising: a display for displaying an enrollment text to a user; an input device for receiving speech signals; a processor for: determining a user utterance including multiple words from a received speech signal; analyzing acoustic content of the user utterance; determining, based on the acoustic analysis, whether number of artifact words utilized for comparing to said predetermined number of hypothesis words.

the multiple words of the user utterance substantially match a multiple-word portion of an enrollment text; and using the user utterance to update acoustic models corresponding to the multiple-word portion of the enrollment text if multiple words of the user utterance substantially match a multiple-words portion of the enrollment text." (Refer: Claim 20) "Other embodiments are within the scope of the following claims. For example, an enrollment program may include multiple enrollment texts, each with corresponding enrollment grammars, allowing a user to select one or more texts for enrollment. The user may create an enrollment text, for which the enrollment program will create a corresponding enrollment grammar. The specific methods by which the enrollment and rejection grammars score a user utterance may vary. Similarly, the method by which the scores are evaluated to determine whether the user utterance matches a portion of the enrollment text may vary." (Refer: Col. 21, Lines 21 - 31)